

## Weekly COVID-19 Update in Montana (as of 12/31/2021)

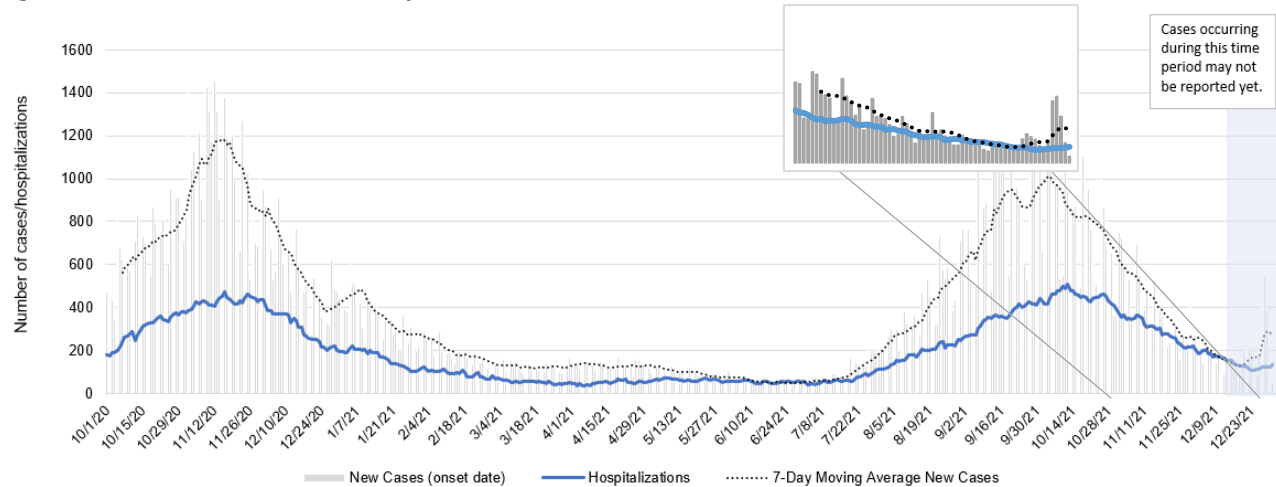
This report is a weekly snapshot of COVID-19 activity in Montana. Data are analyzed based on information available as of December 31, 2021. Data are provisional and expected to change as more information is received.

### Case Data

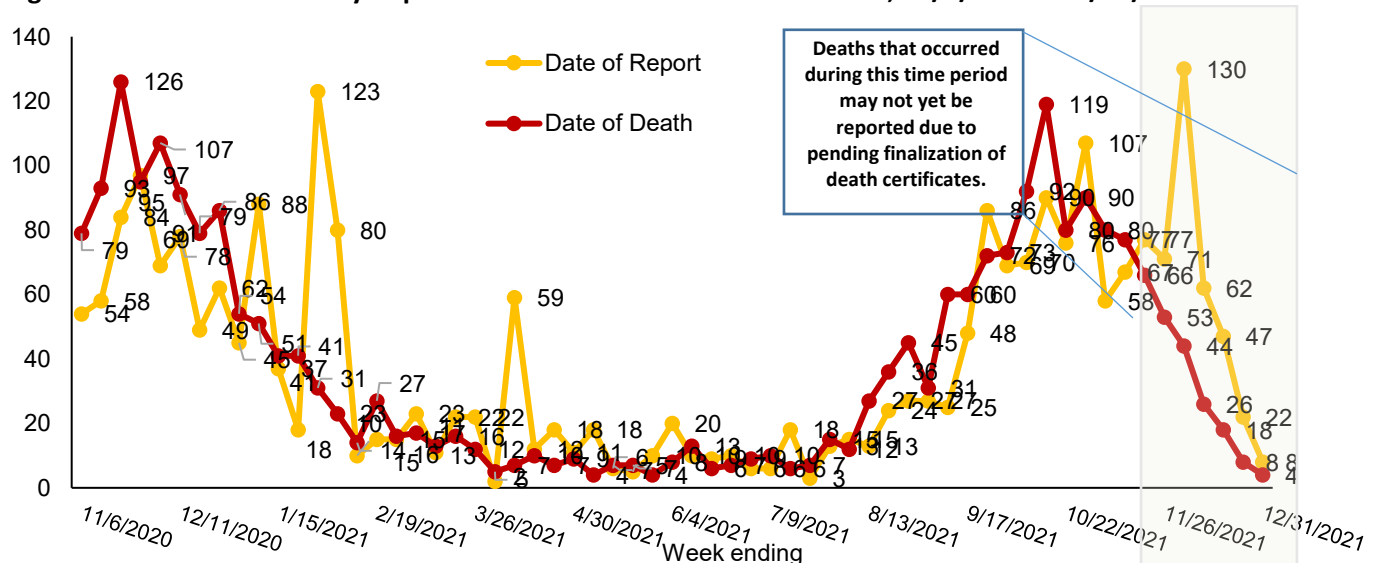
**Table 1. Summary of COVID-19 Activity – Montana, as of 12/31/2021**

|                  | TOTAL     | RECENT WEEK | PERCENT CHANGE FROM PREVIOUS WEEK |
|------------------|-----------|-------------|-----------------------------------|
| REPORTED CASES   | 198,424   | 2,444       | +130%                             |
| LABORATORY TESTS | 2,281,025 | 23,681      | +19%                              |
| HOSPITALIZATIONS | 10,431    | 121         | +2%                               |
| DEATHS           | 2,908     | 8           | -64%                              |

**Figure 1. COVID-19 Cases and Hospitalizations over Time - Montana, as of 12/31/2021**



**Figure 2. COVID-19 Deaths by Report Date and Date of Death – Montana, 11/1/2020 – 12/31/2021**



## Vaccine Data

Montana began vaccinating individuals in mid-December 2020 with a phased process: Phase 1A on December 14, 2020, Phase 1B on January 19, 2021, and Phase 1B+ on March 8, 2021. Vaccinations were opened to all Montanans age 16+ on April 1, 2021 and expanded to all Montanans age 12+ on May 10<sup>th</sup>, 2021. Most recently, the Pfizer vaccine was approved for the 5-11 year old age group on October 29<sup>th</sup>, 2021. To date, 1,331,355 doses have been given across the state and 53% of the eligible population is considered fully vaccinated (table 3).

**Table 2: COVID-19 Vaccine Doses Administered for the 12 and older population – Montana, as of 12/31/2021**

|                                 | NUMBER           | PERCENT OF<br>ELIGIBLE<br>POPULATION | WEEK ENDING<br>12/17 | WEEK ENDING<br>12/24 | WEEK ENDING<br>12/31 |
|---------------------------------|------------------|--------------------------------------|----------------------|----------------------|----------------------|
| TOTAL DOSES ADMINISTERED        | <b>1,304,188</b> |                                      | <b>18,092</b>        | <b>13,164</b>        | <b>9,927</b>         |
| DOSE 1 ADMINISTERED             | <b>594,275</b>   | <b>64%</b>                           | <b>2,652</b>         | <b>2,264</b>         | <b>1,755</b>         |
| FULLY VACCINATED<br>INDIVIDUALS | <b>528,847</b>   | <b>57%</b>                           | <b>1,973</b>         | <b>1,387</b>         | <b>1,239</b>         |

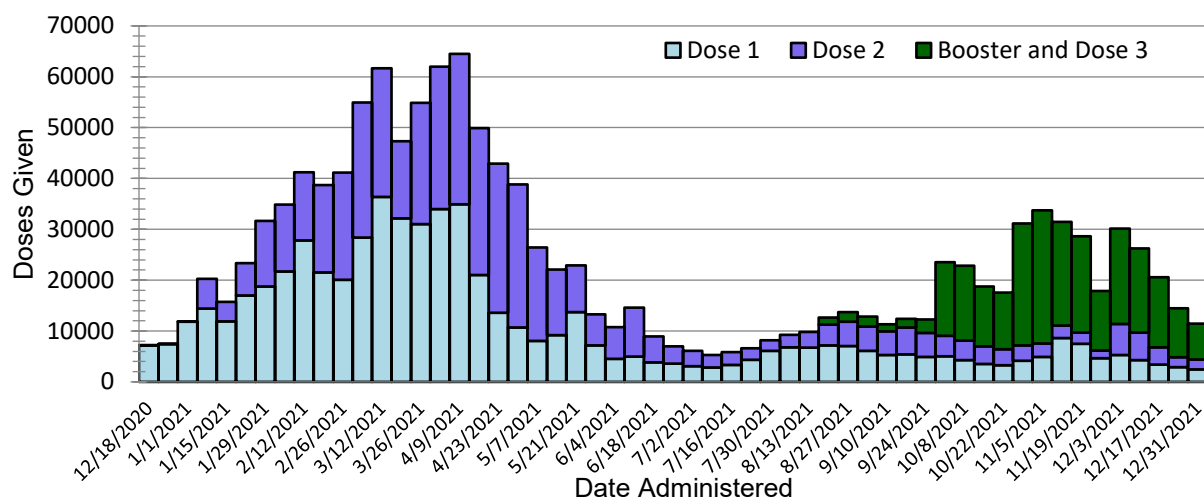
\*the data for the most recent week are preliminary and are expected to be an underestimate of the doses administered during the week, due to a reporting lag.

**Table 3: COVID-19 Vaccine Doses Administered for the 5 and older population – Montana, as of 12/31/2021**

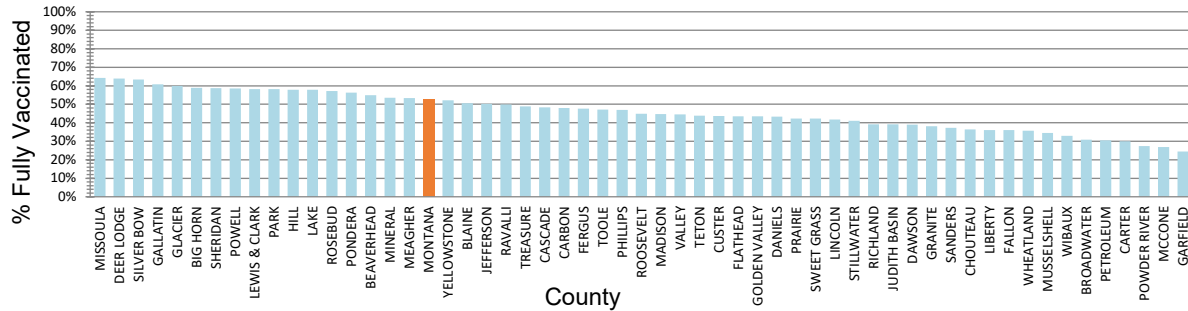
|                                 | NUMBER           | PERCENT OF<br>ELIGIBLE<br>POPULATION | WEEK ENDING<br>12/17 | WEEK ENDING<br>12/24 | WEEK ENDING<br>12/31 |
|---------------------------------|------------------|--------------------------------------|----------------------|----------------------|----------------------|
| TOTAL DOSES ADMINISTERED        | <b>1,331,355</b> |                                      | <b>20,564</b>        | <b>14,482</b>        | <b>11,477</b>        |
| DOSE 1 ADMINISTERED             | <b>610,476</b>   | <b>60%</b>                           | <b>3,402</b>         | <b>2,887</b>         | <b>2,451</b>         |
| FULLY VACCINATED<br>INDIVIDUALS | <b>539,806</b>   | <b>53%</b>                           | <b>3,692</b>         | <b>2,082</b>         | <b>2,093</b>         |

\*the data for the most recent week are preliminary and are expected to be an underestimate of the doses administered during the week, due to a reporting lag.

**Figure 3. COVID-19 Vaccine Doses Administered by Week, 5+ Years – Montana, as of 12/31/2021**



**Figure 4. Percent of Eligible Montanans (5+ years) Fully Vaccinated by County – Montana, 12/31/2021**

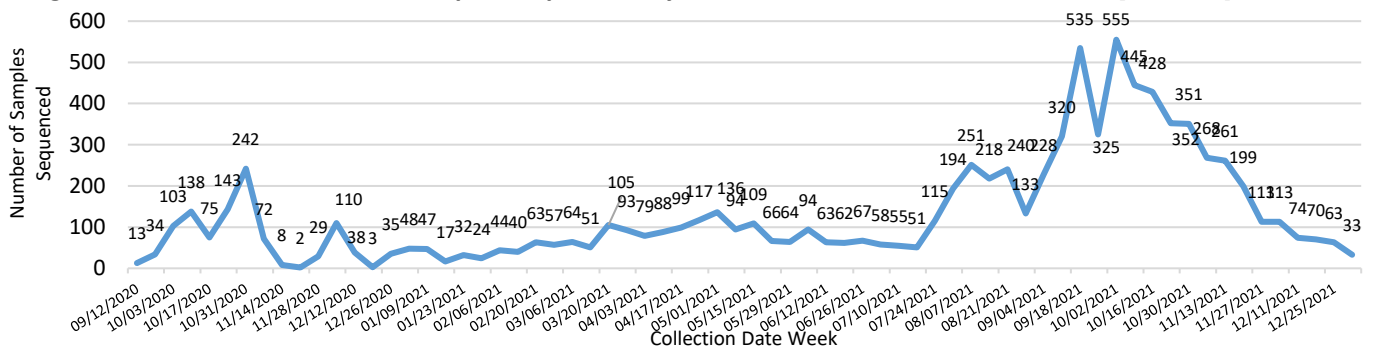


## Variant and Breakthrough Cases

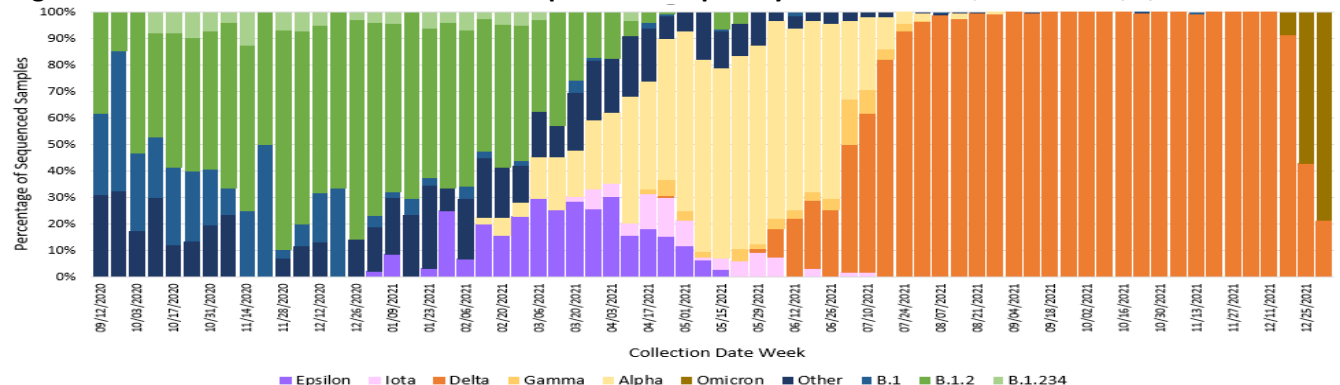
Figure 6 displays the percentage of the most common SARS-CoV-2 lineages detected each week, of all Montana samples sequenced that were collected that week. There were 8,820 samples from Montana that were sequenced and their lineages were reported to [GISAID](#) since September 2020; figure 5 displays the number of specimens sequenced by week. A variant is a lineage that has one or more mutations that differentiate it from other lineages in circulation. Currently, Delta and Omicron are the only Variants of Concern circulating. **As of January 4<sup>th</sup>, there have been 84 cases in Montana infected with the omicron variant.** These cases are from 22 counties: Beaverhead, Blaine, Cascade, Chouteau, Deer Lodge, Fergus, Flathead, Gallatin, Glacier, Hill, Jefferson, Lake, Lewis and Clark, Musselshell, Mineral, Missoula, Pondera, Powell, Silver Bow, Teton, Wibaux, and Yellowstone counties.

Last week, 26/33 (79%) specimens that were collected and sequenced were Omicron, the remaining 7 were Delta. The week prior, 36/63 (57%) specimens that were collected and sequenced were Omicron, the remaining were Delta. Beginning in July 2021, the Delta variant (dark orange) became the dominant variant in Montana. Omicron is displayed in dark brown on the chart below.

**Figure 5. Number of COVID-19 samples sequenced by collection date, Montana 1/4/2022 [n=8,820]**



**Figure 6. Percent of COVID-19 variants in sequenced samples by collection date, Montana 1/4/2022**



A breakthrough COVID-19 infection is defined as a positive SARS-CoV-2 specimen collected  $\geq 14$  days after completing the primary COVID-19 vaccine series of an FDA-authorized COVID-19 vaccine. Depending on the specific vaccine administered, completion of series could be one or two doses of vaccine. As of 12/31/21, Montana reports 17,728 cases of confirmed breakthrough disease, which includes 949 hospitalizations and 285 deaths. Over the past 8 weeks (November 6 – December 31) the number of cases among unvaccinated individuals was 3.0 times higher than the number of cases among vaccinated individuals; the number of hospitalizations and deaths among unvaccinated individuals were 4.4 and 3.0 times higher, respectively, compared to vaccinated individuals.

### Hospitalizations and Deaths and Vaccination Status

COVID-19-related hospitalizations and deaths were analyzed between **April 1 and December 31** to review vaccination status. Since the beginning of April this year, 83% of Montanans who were hospitalized and 79% of those who died were unvaccinated at the time of infection (Table 4). Of the 5,583 individuals who were hospitalized during this time period, 92 (2%) were <18 years old, 804 (14%) were 18 to 44 years old, 1,934 (35%) were 45 to 64 years old and 2,753 (49%) were  $\geq 65$  years old.

Additionally, COVID-19-related hospitalization and death data from **November 6 – December 31** (last 8 weeks) were analyzed to review vaccination status. Eighty-one percent of Montanans who were hospitalized and 75% of those who died had not received a COVID-19 vaccine (Table 5). Of the 939 individuals who were hospitalized during this time period, 16 (2%) were <18 years old, 90 (10%) were 18 to 44 years old, 329 (35%) were 45 to 64 years old and 504 (54%) were  $\geq 65$  years old.

**Table 4. Vaccination status of COVID-19 hospitalizations and deaths – April 1 to December 31, 2021**

|  | HOSPITALIZATIONS      | DEATHS             |
|--|-----------------------|--------------------|
| TOTAL REPORTED                               | <b>5,583</b>          | <b>1330</b>        |
| UNVACCINATED                                 | 4,650 (83%)           | 1045 (79%)         |
| VACCINATED (BREAKTHROUGH CASE)               | 933 (17%)             | 285 (21%)          |
| UNVACCINATED AGE RANGE IN YEARS (MEDIAN AGE) | <b>&lt;1-102 (62)</b> | <b>22-103 (71)</b> |
| VACCINATED AGE RANGE IN YEARS (MEDIAN AGE)   | <b>16-101 (74)</b>    | <b>20-101 (81)</b> |

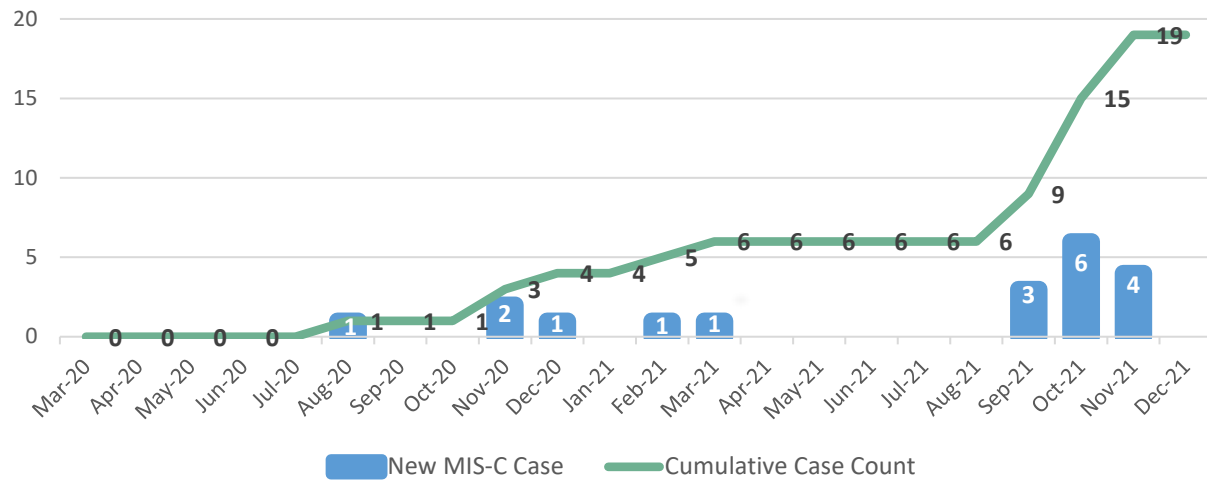
**Table 5. Vaccination status of COVID-19 hospitalizations and deaths – November 6 to December 31, 2021**

|  | HOSPITALIZATIONS     | DEATHS             |
|--|----------------------|--------------------|
| TOTAL REPORTED                               | <b>939</b>           | <b>186</b>         |
| UNVACCINATED                                 | 764 (81%)            | 140 (75%)          |
| VACCINATED (BREAKTHROUGH CASE)               | 175 (19%)            | 46 (25%)           |
| UNVACCINATED AGE RANGE IN YEARS (MEDIAN AGE) | <b>&lt;1-99 (64)</b> | <b>31-99 (71)</b>  |
| VACCINATED AGE RANGE IN YEARS (MEDIAN AGE)   | <b>17-101 (73)</b>   | <b>20-101 (78)</b> |

### Multisystem Inflammatory Syndrome in Children (MIS-C)

As of December 31, 2021, Montana has a total of 19 reported cases of multisystem inflammatory syndrome in children, or MIS-C. There have been no deaths. Ages range from less than 1 year to 20 years old; median is 8 years. Nine cases were female, 10 were male. Cases are from 13 counties around Montana. The first case of MIS-C was reported in August 2020; 13 of the 19 cases have been reported since September 2021 (Figure 7).

**Figure 7. Montana MIS-C Cases by Month, March 2020 – December 2021**



## Reported COVID-19 Cases by County with Trendline – Montana, past 6 weeks

| County          | 26-Nov | 3-Dec | 10-Dec | 17-Dec | 24-Dec | 31-Dec | change from previous week* | Trendline |
|-----------------|--------|-------|--------|--------|--------|--------|----------------------------|-----------|
| Beaverhead      | 15     | 12    | 10     | 4      | 1      | 14     | 13                         |           |
| Big Horn        | 16     | 11    | 18     | 11     | 1      | 6      | 5                          |           |
| Blaine          | 15     | 19    | 9      | 8      | 0      | 3      | 3                          |           |
| Broadwater      | 33     | 22    | 15     | 11     | 7      | 5      | -2                         |           |
| Carbon          | 40     | 15    | 15     | 16     | 4      | 19     | 15                         |           |
| Carter          | 1      | 0     | 0      | 1      | 0      | 9      | 9                          |           |
| Cascade         | 114    | 171   | 110    | 90     | 74     | 128    | 54                         |           |
| Chouteau        | 13     | 4     | 8      | 2      | 3      | 9      | 6                          |           |
| Custer          | 21     | 22    | 16     | 9      | 4      | 16     | 12                         |           |
| Daniels         | 1      | 1     | 4      | 4      | 1      | 0      | -1                         |           |
| Dawson          | 25     | 29    | 18     | 16     | 17     | 23     | 6                          |           |
| Deer Lodge      | 8      | 12    | 7      | 5      | 5      | 18     | 13                         |           |
| Fallon          | 11     | 17    | 12     | 5      | 6      | 0      | -6                         |           |
| Fergus          | 10     | 14    | 12     | 9      | 11     | 17     | 6                          |           |
| Flathead        | 229    | 178   | 116    | 122    | 111    | 224    | 113                        |           |
| Gallatin        | 220    | 362   | 183    | 162    | 253    | 595    | 342                        |           |
| Garfield        | 1      | 3     | 2      | 0      | 0      | 9      | 9                          |           |
| Glacier         | 48     | 20    | 20     | 6      | 7      | 18     | 11                         |           |
| Golden Valley   | 0      | 2     | 2      | 0      | 0      | 0      | 0                          |           |
| Granite         | 3      | 1     | 0      | 0      | 0      | 1      | 1                          |           |
| Hill            | 11     | 24    | 14     | 8      | 7      | 9      | 2                          |           |
| Jefferson       | 50     | 37    | 13     | 8      | 5      | 20     | 15                         |           |
| Judith Basin    | 2      | 0     | 0      | 1      | 0      | 1      | 1                          |           |
| Lake            | 70     | 55    | 71     | 35     | 21     | 42     | 21                         |           |
| Lewis and Clark | 139    | 182   | 104    | 57     | 86     | 148    | 62                         |           |
| Liberty         | 2      | 0     | 1      | 1      | 0      | 1      | 1                          |           |
| Lincoln         | 42     | 29    | 22     | 27     | 15     | 39     | 24                         |           |
| Madison         | 10     | 29    | 11     | 13     | 8      | 15     | 7                          |           |
| McCone          | 0      | 6     | 5      | 5      | 0      | 0      | 0                          |           |
| Meagher         | 3      | 5     | 1      | 1      | 1      | 4      | 3                          |           |

| County         | 26-Nov      | 3-Dec       | 10-Dec      | 17-Dec      | 24-Dec      | 31-Dec      | change from previous week* | Trendline |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------------------|-----------|
| Mineral        | 5           | 4           | 10          | 3           | 2           | 5           | 3                          |           |
| Missoula       | 141         | 142         | 109         | 102         | 149         | 425         | 276                        |           |
| Musselshell    | 19          | 22          | 14          | 5           | 2           | 2           | 0                          |           |
| Park           | 31          | 53          | 39          | 26          | 13          | 55          | 42                         |           |
| Petroleum      | 1           | 2           | 1           | 0           | 1           | 0           | -1                         |           |
| Phillips       | 12          | 9           | 4           | 2           | 0           | 2           | 2                          |           |
| Pondera        | 10          | 4           | 4           | 8           | 9           | 6           | -3                         |           |
| Powder River   | 0           | 1           | 0           | 1           | 1           | 0           | -1                         |           |
| Powell         | 9           | 13          | 7           | 2           | 5           | 11          | 6                          |           |
| Prairie        | 3           | 7           | 4           | 4           | 2           | 1           | -1                         |           |
| Ravalli        | 24          | 43          | 35          | 14          | 14          | 54          | 40                         |           |
| Richland       | 11          | 41          | 17          | 21          | 23          | 35          | 12                         |           |
| Roosevelt      | 28          | 34          | 13          | 12          | 8           | 5           | -3                         |           |
| Rosebud        | 11          | 44          | 6           | 3           | 3           | 4           | 1                          |           |
| Sanders        | 21          | 37          | 15          | 15          | 18          | 34          | 16                         |           |
| Sheridan       | 10          | 18          | 1           | 1           | 1           | 1           | 0                          |           |
| Silver Bow     | 51          | 76          | 36          | 38          | 13          | 45          | 32                         |           |
| Stillwater     | 2           | 38          | 1           | 0           | 1           | 3           | 2                          |           |
| Sweet Grass    | 2           | 10          | 3           | 1           | 4           | 10          | 6                          |           |
| Teton          | 6           | 6           | 1           | 12          | 6           | 15          | 9                          |           |
| Toole          | 3           | 5           | 1           | 2           | 2           | 12          | 10                         |           |
| Treasure       | 7           | 7           | 0           | 0           | 0           | 0           | 0                          |           |
| Valley         | 9           | 19          | 10          | 10          | 1           | 5           | 4                          |           |
| Wheatland      | 1           | 3           | 1           | 0           | 4           | 0           | -4                         |           |
| Wibaux         | 2           | 1           | 2           | 0           | 0           | 1           | 1                          |           |
| Yellowstone    | 323         | 296         | 206         | 139         | 136         | 320         | 184                        |           |
| <b>MONTANA</b> | <b>1895</b> | <b>2217</b> | <b>1359</b> | <b>1058</b> | <b>1066</b> | <b>2444</b> | <b>1378</b>                |           |

\*Note: Data are based on the date of report into the Montana Infectious Disease Information System (MIDIS). Underlined numbers in the above table reflect adjusted counts and may include cases diagnosed but not reported in earlier time frames. These adjustments result from local and state data reconciliation efforts, conducted to ensure accurate data.

| County name    | Eligible<br>population 5+ | Dose 1         | Dose 2         | Dose 3         | Fully<br>Immunized | Total Doses<br>Administered | Percent eligible with<br>first dose (5+) | Percent Fully<br>Vaccinated (5+) |
|----------------|---------------------------|----------------|----------------|----------------|--------------------|-----------------------------|--|----------------------------------|
| BEAVERHEAD     | 9,091                     | 5,342          | 4,302          | 2,182          | 4,994              | 11,826                      | 59%                                      | 55%                              |
| BIG HORN       | 11,975                    | 7,837          | 6,693          | 2,181          | 7,059              | 16,711                      | 65%                                      | 59%                              |
| BLAINE         | 6,044                     | 3,532          | 2,856          | 1,206          | 3,059              | 7,594                       | 58%                                      | 51%                              |
| BROADWATER     | 6,092                     | 2,234          | 1,648          | 802            | 1,881              | 4,684                       | 37%                                      | 31%                              |
| CARBON         | 10,476                    | 5,424          | 4,685          | 2,331          | 5,021              | 12,440                      | 52%                                      | 48%                              |
| CARTER         | 1,141                     | 368            | 320            | 155            | 342                | 843                         | 32%                                      | 30%                              |
| CASCADE        | 76,124                    | 41,249         | 32,881         | 13,914         | 36,772             | 88,044                      | 54%                                      | 48%                              |
| CHOUTEAU       | 5,430                     | 2,160          | 1,796          | 1,155          | 1,974              | 5,111                       | 40%                                      | 36%                              |
| CUSTER         | 10,692                    | 5,201          | 4,168          | 1,999          | 4,672              | 11,368                      | 49%                                      | 44%                              |
| DANIELS        | 1,559                     | 723            | 622            | 303            | 676                | 1,648                       | 46%                                      | 43%                              |
| DAWSON         | 8,071                     | 3,409          | 2,842          | 1,248          | 3,145              | 7,499                       | 42%                                      | 39%                              |
| DEER LODGE     | 8,887                     | 6,188          | 5,109          | 2,785          | 5,675              | 14,082                      | 70%                                      | 64%                              |
| FALLON         | 2,646                     | 1,039          | 906            | 397            | 952                | 2,342                       | 39%                                      | 36%                              |
| FERGUS         | 10,495                    | 5,360          | 4,604          | 2,342          | 4,995              | 12,306                      | 51%                                      | 48%                              |
| FLATHEAD       | 99,993                    | 50,415         | 39,357         | 18,420         | 43,530             | 108,192                     | 50%                                      | 44%                              |
| GALLATIN       | 110,900                   | 80,097         | 61,346         | 27,252         | 67,340             | 168,695                     | 72%                                      | 61%                              |
| GARFIELD       | 1,188                     | 316            | 247            | 95             | 290                | 658                         | 27%                                      | 24%                              |
| GLACIER        | 12,447                    | 10,189         | 6,912          | 2,598          | 7,460              | 19,699                      | 82%                                      | 60%                              |
| GOLDEN VALLEY  | 788                       | 368            | 311            | 135            | 343                | 814                         | 47%                                      | 44%                              |
| GRANITE        | 3,218                     | 1,415          | 1,121          | 500            | 1,229              | 3,036                       | 44%                                      | 38%                              |
| HILL           | 14,914                    | 9,565          | 7,288          | 3,242          | 8,638              | 20,095                      | 64%                                      | 58%                              |
| JEFFERSON      | 11,819                    | 6,543          | 5,534          | 2,765          | 5,934              | 14,842                      | 55%                                      | 50%                              |
| JUDITH BASIN   | 1,880                     | 781            | 674            | 335            | 735                | 1,790                       | 42%                                      | 39%                              |
| LAKE           | 29,280                    | 19,219         | 15,740         | 7,296          | 16,918             | 42,255                      | 66%                                      | 58%                              |
| LEWIS & CLARK  | 66,257                    | 43,827         | 35,794         | 18,413         | 38,596             | 98,034                      | 66%                                      | 58%                              |
| LIBERTY        | 2,234                     | 845            | 708            | 401            | 807                | 1,954                       | 38%                                      | 36%                              |
| LINCOLN        | 19,480                    | 9,182          | 7,432          | 3,578          | 8,119              | 20,192                      | 47%                                      | 42%                              |
| MADISON        | 8,589                     | 4,302          | 3,412          | 1,834          | 3,839              | 9,548                       | 50%                                      | 45%                              |
| MCCONE         | 1,562                     | 440            | 412            | 184            | 421                | 1,036                       | 28%                                      | 27%                              |
| MEAGHER        | 1,726                     | 987            | 843            | 413            | 921                | 2,243                       | 57%                                      | 53%                              |
| MINERAL        | 4,302                     | 2,559          | 1,839          | 1,001          | 2,305              | 5,399                       | 59%                                      | 54%                              |
| MISSOULA       | 115,881                   | 82,622         | 68,538         | 33,942         | 74,474             | 185,102                     | 71%                                      | 64%                              |
| MUSSELSHELL    | 4,458                     | 1,678          | 1,346          | 611            | 1,541              | 3,635                       | 38%                                      | 35%                              |
| PARK           | 15,969                    | 10,897         | 8,395          | 4,067          | 9,298              | 23,359                      | 68%                                      | 58%                              |
| PETROLEUM      | 483                       | 158            | 138            | 77             | 147                | 373                         | 33%                                      | 30%                              |
| PHILLIPS       | 3,675                     | 1,855          | 1,417          | 806            | 1,724              | 4,078                       | 50%                                      | 47%                              |
| PONDERA        | 5,389                     | 3,458          | 2,669          | 1,261          | 3,035              | 7,388                       | 64%                                      | 56%                              |
| POWDER RIVER   | 1,588                     | 483            | 382            | 172            | 436                | 1,037                       | 30%                                      | 27%                              |
| POWELL         | 6,534                     | 4,082          | 3,044          | 1,184          | 3,827              | 8,310                       | 62%                                      | 59%                              |
| PRAIRIE        | 994                       | 458            | 399            | 218            | 421                | 1,075                       | 46%                                      | 42%                              |
| RAVALLI        | 42,972                    | 23,877         | 19,122         | 10,272         | 21,461             | 53,271                      | 56%                                      | 50%                              |
| RICHLAND       | 10,310                    | 4,292          | 3,375          | 1,519          | 4,044              | 9,186                       | 42%                                      | 39%                              |
| ROOSEVELT      | 9,918                     | 5,155          | 3,776          | 1,475          | 4,459              | 10,406                      | 52%                                      | 45%                              |
| ROSEBUD        | 8,160                     | 5,268          | 4,148          | 1,765          | 4,660              | 11,181                      | 65%                                      | 57%                              |
| SANDERS        | 11,641                    | 4,844          | 4,060          | 1,861          | 4,341              | 10,765                      | 42%                                      | 37%                              |
| SHERIDAN       | 3,075                     | 1,904          | 1,673          | 893            | 1,805              | 4,470                       | 62%                                      | 59%                              |
| SILVER BOW     | 33,267                    | 23,193         | 19,807         | 9,750          | 21,104             | 52,750                      | 70%                                      | 63%                              |
| STILLWATER     | 9,451                     | 4,223          | 3,340          | 1,761          | 3,882              | 9,324                       | 45%                                      | 41%                              |
| SWEET GRASS    | 3,523                     | 1,652          | 1,268          | 685            | 1,490              | 3,605                       | 47%                                      | 42%                              |
| TETON          | 5,819                     | 3,028          | 2,114          | 1,059          | 2,550              | 6,201                       | 52%                                      | 44%                              |
| TOOLE          | 4,391                     | 2,209          | 1,687          | 549            | 2,069              | 4,445                       | 50%                                      | 47%                              |
| TREASURE       | 623                       | 415            | 281            | 129            | 304                | 825                         | 67%                                      | 49%                              |
| VALLEY         | 6,931                     | 3,294          | 2,638          | 1,452          | 3,085              | 7,384                       | 48%                                      | 45%                              |
| WHEATLAND      | 2,035                     | 774            | 673            | 323            | 725                | 1,770                       | 38%                                      | 36%                              |
| WIBAUX         | 898                       | 347            | 288            | 106            | 296                | 741                         | 39%                                      | 33%                              |
| YELLOWSTONE    | 153,378                   | 89,194         | 73,881         | 32,619         | 79,986             | 195,694                     | 58%                                      | 52%                              |
| <b>MONTANA</b> | <b>1,020,663</b>          | <b>610,476</b> | <b>490,861</b> | <b>230,018</b> | <b>539,806</b>     | <b>1,331,355</b>            | <b>60%</b>                               | <b>53%</b>                       |